

Notice of Allowability**Application No.**

10/760,126

Applicant(s)

FERGUSON, BRUCE R.

Examiner

Aaron Piggush

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 10/27/08.
2. ☒ The allowed claim(s) is/are 9-11, 13, 14, 16, 19-23, 25, 26 and 28-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20081206.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Aaron Piggush/
Examiner, Art Unit 2838

/Akm Enayet Ullah/
Supervisory Patent Examiner, Art Unit 2838

DETAILED ACTION
EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John King on December 4, 2008.

The application has been amended as follows:

See ATTACHMENT A, wherein the following amendments have been made by the examiner:

At the end of claim 16, page 5, line 12, please add --, wherein the current provided by the AC adapter is not sensed and is not used to vary the charging current in response to changes in the load current.—

Allowable Subject Matter

2. Claims 9-11, 13, 14, 16, 19-23, 25, 26, and 28-31 are allowed.
3. The following is an examiner's statement of reasons for allowance: Please see the examiner's amendment and interview summary included in this office action, the "Applicant Arguments/Remarks Made in an Amendment" filed 10/27/08, and below.

Claim 9 recites, *inter alia*, a method for controlling battery power comprising the acts of: coupling a first input terminal for receiving a first external power source, provided by an AC adapter, to a system power terminal via a first isolation diode; coupling a second input terminal for receiving a second external power source to the system power terminal via a second isolation diode connected in series with a current sensing circuit, wherein the second external power source is provided by a USB interface; coupling a first bypass transistor across the first isolation diode and a second bypass transistor across the second isolation diode; coupling an overriding diode between the first input terminal and a control terminal of the second bypass transistor to force the second bypass transistor off and to effectively isolate the USB interface from the system power terminal when the AC adapter is connected to the first input terminal; coupling an internal battery to the system power terminal via a series connected regulating transistor, wherein the regulating transistor comprises a control terminal and a configurable body terminal connected to the system power terminal when the system power terminal has a greater voltage than the internal battery and connected to the internal battery when the internal battery has a greater voltage than the system power terminal; charging the internal battery by linearly regulating the regulating transistor with an adjustable voltage at the control terminal of the regulating transistor to conducting a charging current during a charging mode; and using the current sensing circuit to measure current provided by the USB interface and to reduce the charging current in response to an increase in load current by varying the adjustable voltage at the control terminal of the regulating transistor when the measured current from the USB interface exceed a predefined

threshold, wherein the current sensing circuit does not measure current provided by the AC adapter to reduce the charging current.

Claim 16 recites, inter alia, a method for controlling power to a battery, the method comprising: coupling a first isolation diode between a first input terminal for receiving an external primary power source via an AC adapter and a system power terminal; coupling a second isolation diode between a second input terminal for receiving an external secondary power source via a USB interface and the system power terminal; coupling a first bypass transistor across the first isolation diode; coupling a second bypass transistor across the second isolation diode; coupling an electronic device, which demands a load current, to the system power terminal; coupling an internal battery to the system power terminal through a regulating transistor, wherein the regulating transistor comprises a control terminal and a configurable body contact; sensing respective voltages of the system power terminal and the internal battery to control a connection of the configurable body contact, wherein the configurable body contact is connected to the first terminal when the system power terminal has a greater voltage than the internal battery and connected to the second terminal when the internal battery has a greater voltage than the system power terminal; driving the control terminal of the regulating transistor with a driving signal having linearly adjustable voltage levels to linearly regulate the level of a charging current, wherein the level of the charging current provided is determined by the voltage level of the driving signal; and sensing current provided by the USB interface to vary the charging current in response to changes in the load current such that a total current provided by the USB interface does not exceed a threshold current value, and wherein the current provided by

the AC adapter is not sensed and is not used to vary the charging current in response to changes in the load current.

The prior art of record does not disclose the above limitations, nor would it be obvious to modify the art in such a manner.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Piggush whose telephone number is (571)272-5978. The examiner can normally be reached on Monday-Friday 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Akm Enayet Ullah/
Supervisory Patent Examiner, Art Unit
2838

/A. P./
Examiner, Art Unit 2838